REMARKS

Claims 1-30 are currently pending. None of the claims have been amended. No new matter has been added.

Claim Rejections Under 35 U.S.C. §102

Claims 1-30 were rejected under 35 U.S.C. §102(a) as anticipated by Sheeran (*Checking safety properties using induction and a SAT-solver*, November 2000, In Proc. Conference on Formal Methods in Computer-Aided Design). Applicant respectfully traverses.

Independent claim 1 recites the following limitations (emphasis added):

(a) performing bounded verification on a circuit design for a number of transitions, the bounded verification corresponding to a *predetermined limit* for a number of transitions;

(b) performing induction proof of a first property for the number of transitions, wherein the induction proof is performed by a process comprising the acts of:

including, in an inductive set of one or more states, a plurality of states of the circuit design, wherein the inductive set of one or more states includes at least states passing the first property of the circuit design;

transitioning by at least one step, in a forward direction, states of the inductive set passing at least the first property of the circuit design, resulting in transitioned states;

determining if the transitioned states of the inductive set pass at least the first property of the circuit design;

repeating at least the transitioning and the determining, until at least, the determining results in the transitioned states of the inductive set passing or failing at least the first property of the circuit design; and

(c) if the at least one property is not verified, then *increasing the limit* for the bounded verification and repeating from (a).

Applicant respectfully submits that the cited Sheeran reference does not disclose each and every limitation of independent claim 1.

I. Response to Section 6A of the Action

The Action asserts that, in Sheeran, the domain of transition T is the <u>entire</u> set of states S. Hence, assuming that T contains the <u>entire</u> set of states S, the bound <u>cannot be increased</u> due to the bound already being at maximum.

In contrast, independent claim 1 recites that, in step (a), the bounded verification corresponds to a *predetermined limit* for a number of transitions, and in step (c), the limit for the bounded verification is *increased* if at least one property is not verified. Therefore, since the limit can be increased in step (c), then the predetermined limit established in step (a) is at least less than maximum. Clearly, independent claim 1 is different than the teachings of Sheeran as asserted by the Action because the limit for the bounded verification can be increased, and the method can be repeated from step (a) if at least one property is not verified.

II. Response to Section 6B of the Action

The Action asserts that, in Sheeran, transition T is copied i times, and i is a number of repeated transitions. However, even though Sheeran may disclose an induction-based method that may use transition T repeated i times, this merely reads on only part of the first repeat feature in step (b) of independent claim 1. In fact, Sheeran is silent in reference to a second repeat feature that can repeat the entire method if at least one property is not verified.

In contrast, independent claim 1 recites that, in step (c), if at least one property is not verified, then the limit for the bounded verification can be increased, and the method can be repeated from step (a). Clearly, Sheeran fails to disclose this feature.

For at least these reasons, it is respectfully submitted that independent claim 1, including claims dependent thereon, are allowable over the cited reference.

For at least the same reasons, it is respectfully submitted that independent claims 12 and 29, including claims dependent thereon, are also allowable over the cited reference.

CONCLUSION

Based on the foregoing, all claims are believed allowable, and an allowance of the claims is respectfully requested. If the Examiner has any questions or comments, the Examiner is respectfully requested to contact the undersigned at the number listed below.

The Commissioner is authorized to charge any fees due in connection with the filing of this document to Bingham McCutchen's Deposit Account No. **50-2518,** referencing billing number **7038392001.** The Commissioner is authorized to credit any overpayment or to charge any underpayment to Bingham McCutchen's Deposit Account No. **50-2518,** referencing billing number **7038392001.**

Respectfully submitted,

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Date: February 13, 2007

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